

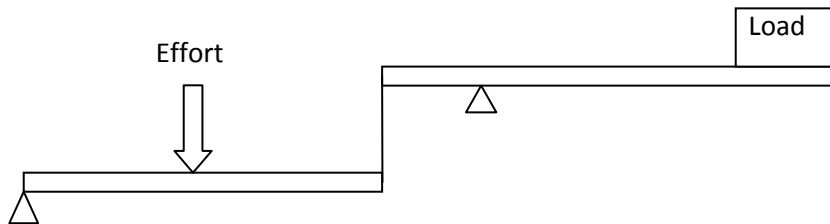
Applied Physical Science -- Individual Presentation Follow-Up Assignment

Topic: The Physics of Snowplowing

Name: _____

1. Define the term "Mechanical Advantage"
2. What is a "1st-class" lever?
3. What is a "2nd-class" lever?
4. What is a "3rd-class lever?
5. Sketch an everyday object that behaves as a 3rd-class lever (you may not the human forearm nor a snowplow), and show how to calculate its mechanical advantage.
6. What is meant by the term "Compound Mechanical Advantage?"

7. What is the approximate mechanical advantage of each lever in the figure below?



8. What is the approximate compound mechanical advantage of the machine below? Show how you got your answer.
9. In the figure above, what types of levers (what class) are shown?
10. Does the human forearm have a large or small mechanical advantage (consider anything larger than 1.0 to be "large," and anything less than 1.0 to be "small"). Give one reason why we evolved this way.

11. Sketch a typical snowplow, showing how it is comprised of two 3rd-Class levers, and show how to find its compound mechanical advantage.